

THE GENUS *DYNOIDES* BARNARD, 1914 (CRUSTACEA:
ISOPODA: SPHAEROMATIDEA)
FROM EASTERN AUSTRALIA, WITH DESCRIPTION OF NEW SPECIES.

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ABSTRACT

The type of material of *Dynoides barnardi* is redescribed and figures given together with figures from new non-type material. *Dynoides viridis* sp. nov. from the Great Barrier Reef is described.

INTRODUCTION

One of the major early contributors to knowledge of the Australian isopod fauna was W.H. Baker who published a series of papers dealing exclusively with the family Sphaeromatidae (Baker, 1908, 1910, 1911, 1926, 1928). In the last of these works he described the then second known species of the genus *Dynoides*, and naming it after the founder of the genus K.H. Barnard called it *Dynoides barnardi*. Since that time five other species have been described. Bruce (1980) lists these species and provided a current description of the genus.

The present paper describes a new species from Heron Island, Great Barrier Reef, and provides a redescription of *Dynoides barnardi*. Type material has been lodged at the Queensland Museum (QM), Brisbane, and at the Australian Museum (AM), Sydney.

TAXONOMY

GENUS *DYNOIDES* BARNARD

Dynoides Barnard, 1914: 407; Nierstrasz, 1931: 198; Loyola e Silva, 1960: 91; Kussakin, 1979: 432; Bruce, 1980: 199.

Paradynoides Loyola e Silva, 1960: 101.
Dynoidella Pillai, 1965: 78.

Dynoidella Nishimura, 1976: 275 (*non* Pillai, 1965).

REMARKS. Bruce (1980) gave a diagnosis for the genus, with which the present material agrees. Comparison of the species dealt with here to other members of the genus revealed that the appendages differ only in minor ways.

The similarity of the appendages between species of the genus can be seen by comparison of the drawings given by Bruce (1980, and here), Kussakin (1979), Loyola e Silva (1960) and Pillai (1965). Separation of the males is best achieved by the differences in pleon and pleotelson morphology. The separation of females is still problematic, but it seems likely that these may be most easily separated by differences in colouration (Bruce, 1980).

A character useful in aiding identification of the genus is the strongly reflexed appendix masculina.

DYNOIDES BARNARDI BAKER, 1928 (FIGS. 1, 2)
Dynoides barnardi Baker, 1928: 56, pl. VI, fig. 5-7; Nierstrasz, 1931: 198.

MATERIAL. 2 ♂, Syntypes, (4.5 mm, 4.8 mm) (A.M. Reg. No. P. 8948). Glebe Is., E side, Berth 14, Port Jackson, N.S.W. Not attacking timber, collected from surface growth, 20.vii.1927. 1 ♂ Syntype (5.5 mm) (AM Reg. no. P9086), Goat Is., Port Jackson, N.S.W. Submerged timber (oregon), test piece 14.x.1927. Coll. F.A. McNeill.

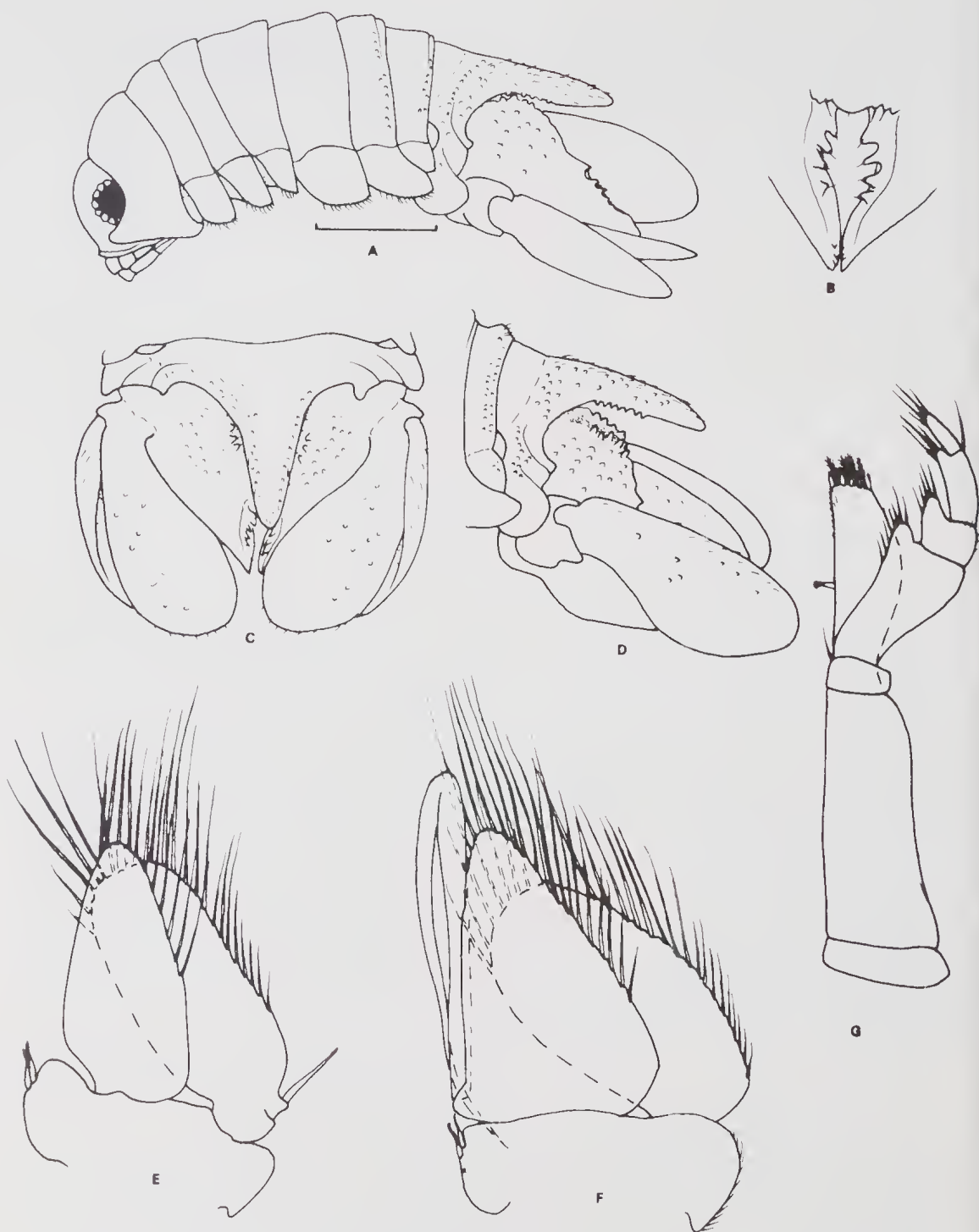


FIG. 1. *Ixynoides barnardi*. (a-c) syntype, 4.6 mm, (d-g) syntype, A.M. P8948 (a) lateral view, (b) pleotelsonic sinus, (c) dorsal view, pleotelson, (d) lateral view, pleotelson, (e) pleopod 1, (f) pleopod 2, (g) maxilliped. Scale line represents 1.0 mm (setules omitted).

2 ♂ (5.5 mm, immature 5.3 mm) (QM Reg. no. W8563) Sydney, N.S.W. November 1979. Coll. N. Sverrignig.

TYPE LOCALITY. Port Jackson, New South Wales, Australia.

DESCRIPTION. ADULT MALE. Body with sub-parallel sides, about twice as long as broad. Anterior margin of cephalon with carina. Clypeus with anterior margin truncate, posterolateral margins produced posteriorly with extremities truncate. Pereonite 1 about twice as long as pereonite 2, pereonites 2–5 becoming progressively longer; pereonite 6 shorter than 5, and 7 shorter than 6; dorsal surface of posterior margins of pereonites 4–7 raised, and those of pereonites 6 and 7 with tubercles. Coxal plates of pereonite 6 extending to posterior margin of pereonite 7. Pleon with large median dorsal process extending beyond origin of pleotelsonic sinus, dorsal surface of which has numerous tubercles and setae; process has ventral lateral margins each with row of distinct tubercles. Pleotelson with dorsal surface in the form of bilobed dome, numerous small tubercles, and two rows of large distinct tubercles opposing those of the pleonal process. Pleotelsonic sinus with posterior borders almost touching, small denticles on each side; lateral margins with 4 inwardly directed lobes, each with single simple seta; anterior with inwardly projecting lobe with two simple setae on either side.

Antennular peduncle with articles 1 and 2 robust, article 2 half as long as 1; peduncular article 3 slender, 1.5 times as long as article 2; flagellum of 10 articles, all but the first bearing a single aesthetasc. Antenna with peduncular article 1 very short, articles 2 and 4 subequal in length and longer than article 3 which is half as long as article 5; flagellum composed of 16 articles.

Mouthparts. Not differing significantly from other members of the genus.

Pereopods all ambulatory. Pereopod 1 more robust than and shorter than others; superior margin of all articles except carpus with short setae and spines; superior margin of ischium not markedly angular, merus with superior distal angle produced, overreaching carpus, and provided with two large spines. Pereopod 7 slender, all articles elongate; merus with superior distal angle slightly expanded, subequal in length to carpus; propodus and ischium subequal in length.

Penes similar to other species of genus.

Pleopods and appendix masculina not differing noticeably from other members of genus.

Uropods broad, both rami with marginal setae; lateral margin of exopod folded over, dorsal and ventral surface with scattered tubercles; endopod extends beyond apex of telson by one third of its length.

FEMALE. Not known.

SIZE. Largest specimen, 5.5 mm.

COLOUR. Mottled, with khaki overlaying tan coloured ground. In alcohol colour fades to a pale brown.

REMARKS. The character which best distinguishes this species from all others in the genus is the presence of the two rows of distinct tubercles on the dorsal surface of the pleotelson, and the two rows of tubercles on the ventral surface of the pleonal process which oppose these. The pleonal process itself is rather longer than those of other species, and the clypeus is distinctive in having nearly straight lateral margins.

Dynoides dentisinus Shen, 1929 is distinguished by the far shorter pleonal process which lacks the characteristic tubercles of *D. barnardi*, and also by having the apex of the clypeus more strongly produced.

DYNOIDES VIRIDIS, SP. NOV. (FIGS. 3, 4)

MATERIAL. 3 ♂ (4.4, 3.4, 2.8 mm), 2 ♀ (3.6 ovigerous, 3.0 mm), 4 juveniles (2.8–3.0 mm). North East reef crest, boulder zone, Heron Island, Capricorn Group, Great Barrier Reef. 17.i.1979. Coll. N.L. Bruce.

TYPES. Holotype. ♂ 4.4 mm QM Reg. no. W8522 Allotype. 3.6 mm QM Reg. no. W8523 Additional paratypes. 2 juv. QM Reg. no. W8524, 2 juv. QM Reg. no. P30994

TYPE LOCALITY. Heron Island, Great Barrier Reef, Australia.

DESCRIPTION. ADULT MALE. Lateral margins of pereon sub-parallel in dorsal view, 2.5 times as long as greatest width. Anterior margin of cephalon with carina. Frontal lamina with anterior margin truncate, lateral margins backwardly directed with extremities truncate. Pereonite 1 about half as long again as pereonite 2, pereonites 2–6 subequal in length, pereonite 7 slightly shorter than 6. Dorsal surface of pereon with few setae or tubercles. Coxal plates of pereonite 6 not extending to posterior of pereonite 7. Pleon with medial dorsal process, not extending over pleotelsonic sinus, with moderate number of

small tubercles on lateral margins. Pleotelson with dorsal surface in form of bilobed dome, dorsal surface with scattered small tubercles. Pleotelsonic sinus with posterior part of sinus walls sub-parallel, 3-4 small spines projecting into sinus; anterior lobe with few small setae.

Antennule with peduncular articles 1 and 2 robust, article 3 slender, peduncular article 2 half

as long as 3; flagellum composed of 11 articles. Antenna with peduncular article 1 very short, articles 2 and 4 subequal in length longer than peduncular article 3, but shorter than article 5; flagellum composed of 15 articles.

Mouthparts are similar to other species of the genus. Pereopods all ambulatory. Pereopod 1 shorter, more robust than others; basis and

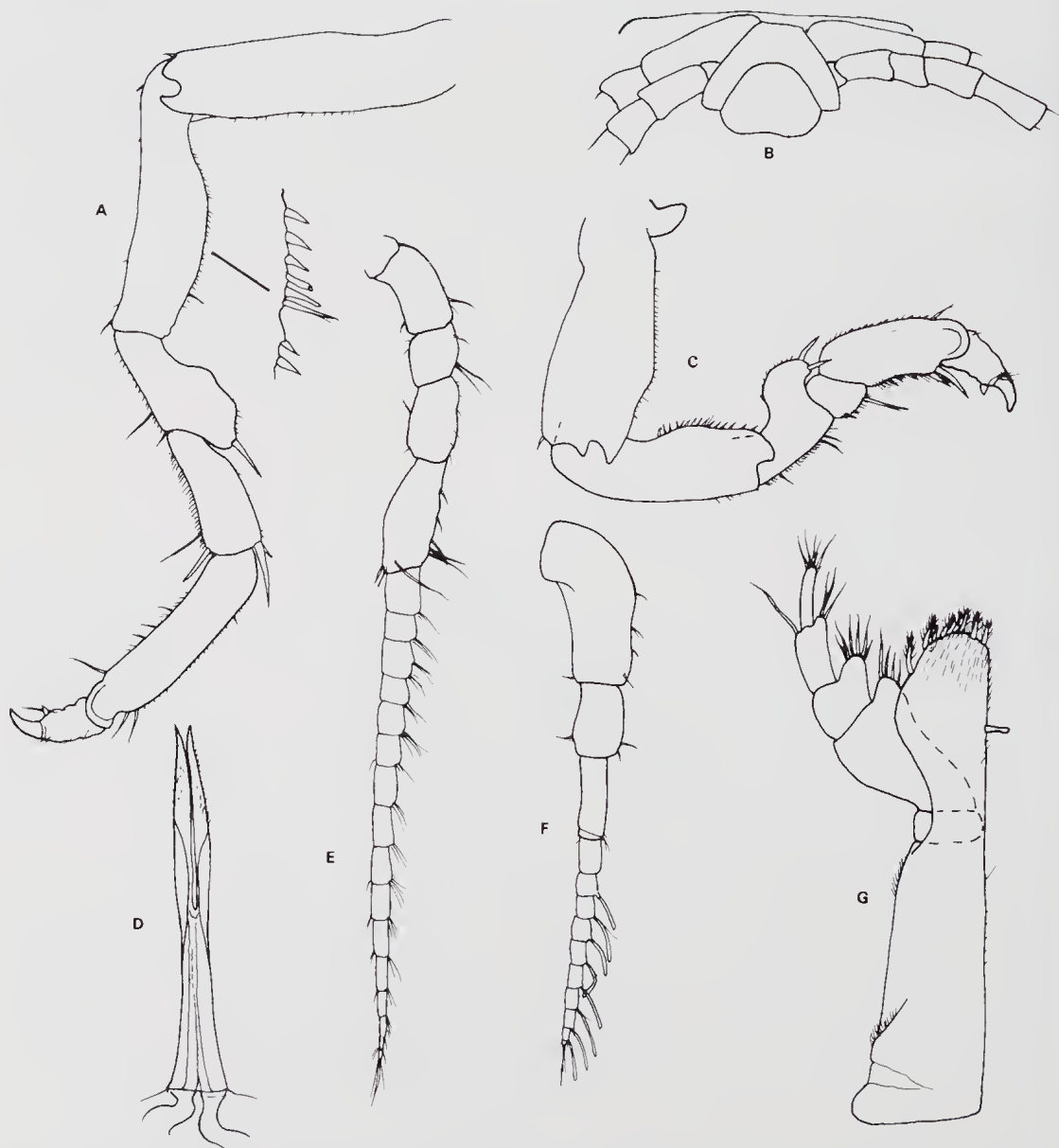


FIG. 2 *Dynoides barnardi* (W8563). (a) pereopod 7, (b) epistomal region, (c) pereopod 1, (d) penes, (e) antenna, (f) antennule, (g) maxilliped (setules omitted).

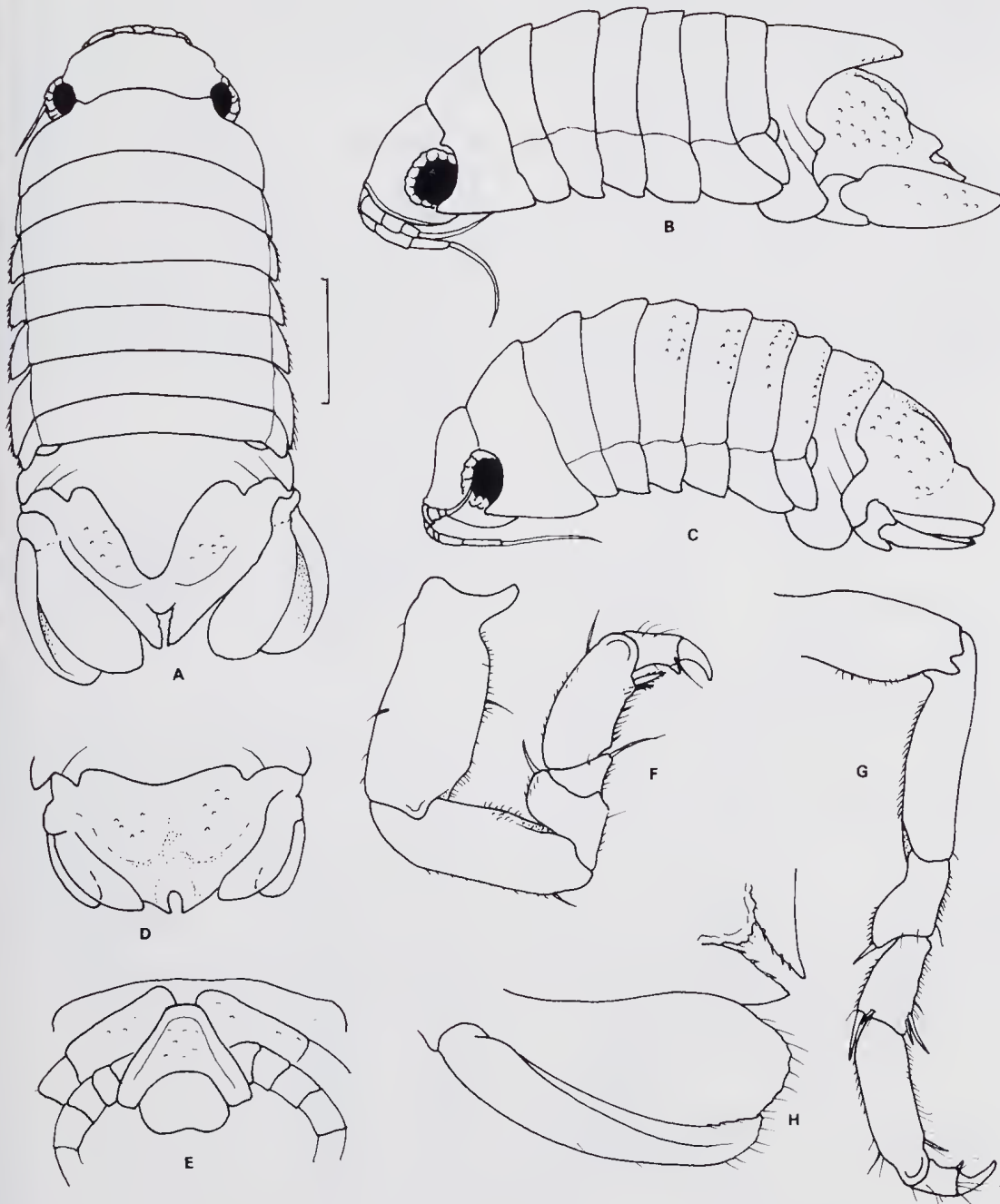


FIG. 3 *Dynoides viridis* sp. nov. holotype. (a) dorsal view, (b) lateral view, (e) clypeal region, (h) uropod and pleotelson sinus.

Allotype. (c) lateral view, (d) dorsal view, pleotelson. Paratype. (f) pereopod 1, (g) pereopod 7. Scale line represents 1.0 mm (setules omitted).

ischium equal in length, merus with superior distal angle overriding carpus; superior margins of all articles except carpus with short setae and spines. Pereopod 7 with all articles elongate; merus with superior distal margin produced; superior margins of all articles and inferior margins of merus, carpus and propodus with small spines and setae.

Penes similar to other members of genus.

Pleopods and appendix masculina not differing from other species of genus.

Uropods broad, lamellar, ventral surface with few scattered tubercles; endopod extending beyond apex of telson by one fifth of its length, both rami with marginal setae.

FEMALE. Generally similar to male, but pleon lacks dorsal process, has fewer tubercles, while the telsonic sinus is a simple u-shaped opening lacking spines, setae and the anterior lobe. The uropods do not extend beyond the pleotelson. Brood pouch formed by a series of 5 membranous plates

overlapping at the midline.

COLOUR. Dorsal surface is a bright green, which fades to white in alcohol.

SIZE. Smallest recognizable adult, 3.0 mm; largest ovigerous female 3.5 mm.

ETYMOLOGY: Specific name is derived from the Latin word *viridis* meaning green, and alludes to the colouring of the live animals.

REMARKS. This small species is separated from the only other Australian species (*D. barnardi*) by differences in pleotelson morphology. *Dynoides dentisinus* Shen, from Japan and China differs in that the walls of the telsonic sinus are convergent. The briefly figured *Dynoides serratisinus* Barnard, 1914 differs in having the uropod endopod bearing a truncate posterior margin, more markedly serrate walls to the pleotelsonic sinus and the frontal lamina with the anterior margin rounded.

DISTRIBUTION. Known only from the type locality.

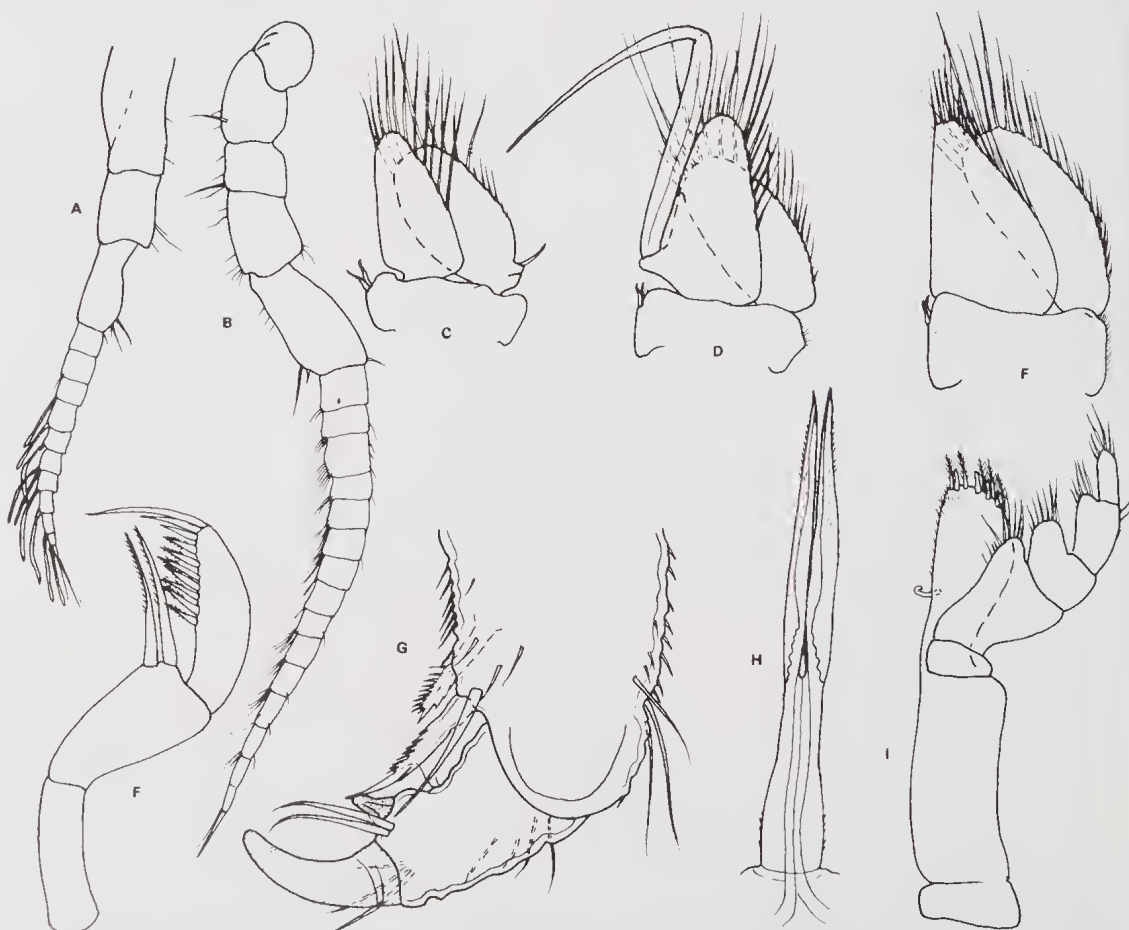


FIG. 4 *Dynoides viridis* sp. nov., paratype. (a) antennule, (b) antenna, (c-e) pleopods 1-3 respectively, (f) mandibular palp, (g) dactyl, pereopod 1, (h) penes, (i) maxilliped (setules omitted).

HABITAT

The specimens of *Dynoides barnardi* described by Baker (1928) were all taken from pieces of submerged timber, and were apparently epifaunal. The present specimens were taken from the massed calcareous tubes of the polychaete *Galeolaeria caespitosa* Lamarck, 1818, a habitat similar to that from which *D. dentisinus* has been taken in Japan (Bruce, 1980). All the specimens of *Dynoides viridis* were taken from a single intertidal boulder of dead coral rock on the reef crest at the exposed north eastern tip of Heron Island. The green colour of the animals suggest that they are probably epifaunal, because their colour resembles that of the algal turf on the coral rock.

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